

REMARKS

By this Amendment, claims 1-16 are cancelled, and claims 17-27 are added. Thus, claims 17-27 are active in the application. Reexamination and reconsideration of the application are respectfully requested.

The specification and abstract have been carefully reviewed and revised to correct grammatical and idiomatic errors in order to aid the Examiner in further consideration of the application. The amendments to the specification and abstract are incorporated in the attached substitute specification and abstract. No new matter has been added.

Also attached hereto is a marked-up version of the substitute specification and abstract illustrating the changes made to the original specification and abstract.

Replacement formal drawings of Figures 1-20 are submitted concurrently herewith under a separate cover letter in order to correct a mislabeled element in Figure 11. In particular, the route search part of the server 51a was denoted in Figure 11 as corresponding to reference numeral 104. However, the route search part of the third embodiment is modified with respect to the route search parts of the first and second embodiments, and therefore, the route search part in Figure 11, as described in the specification, should be denoted by reference numeral 104a instead of reference numeral 104. Accordingly, Figure 11 was revised in order to correctly label the route search part of the server 51a as reference numeral 104a instead of reference numeral 104. Approval of the replacement formal drawings is respectfully requested.

In item 3 on page 2 of the Office Action, the Examiner indicated that the Information Disclosure Statement (IDS) and the Form PTO-1449 submitted on April 26, 2001 are not of record in the U.S. Patent and Trademark Office's (PTO) file for the present application. As prima facie evidence that the April 26, 2001 IDS and Form PTO-1449 together with a copy of each of the references listed on the Form PTO-1449 were indeed submitted to the PTO on April 26, 2001, submitted herewith is a copy of the postcard which was date stamped by the PTO to indicate the PTO received the April 26, 2001 IDS and Form PTO-1449 together with the five references listed thereon. For the Examiner's convenience, a copy of the April 26, 2001 IDS and the Form PTO-1449, together with a courtesy copy of the references listed on the Form PTO-

1449, are submitted herewith. Accordingly, the Applicant respectfully requests the Examiner to consider the references listed on the April 26, 2001 Form PTO-1449.

The Applicant notes that the Examiner failed to acknowledge, in item 12 on the Office Action Summary form, the Applicant's claim of foreign priority based on Japanese Patent Application No. 2000-129105, filed April 28, 2000. As indicated on the copy of the April 26, 2001 PTO date-stamped postcard submitted herewith, the Claim of Priority and the certified copy of the foreign priority document were submitted on April 26, 2001. Accordingly, the Applicant respectfully requests the Examiner to acknowledge the Applicant's claim of foreign priority and the receipt of the certified copy of the foreign priority document. For the Examiner's convenience, a copy of the April 26, 2001 Claim of Priority is also submitted herewith.

In item 6 on page 3 of the Office Action, claims 1-9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Fultz (U.S. 6,021,371) in view of Behr et al. (U.S. 5,543,789). Further, in item 18 on page 7 of the Office Action, claims 10-16 were rejected under 35 U.S.C. § 102(b) as being anticipated by Behr et al. These rejections are believed to be moot in view of the cancellation of claims 1-16. Furthermore, the Applicant respectfully submits that these rejections are inapplicable to new claims 17-27 for the following reasons.

The present invention provides an interactive navigation system, an interactive navigation method and a program that describes the interactive navigation method. The interactive navigation system of the present invention includes a server and a mobile apparatus, which a user operates to perform a route search. The user of the mobile apparatus inputs user input information indicating at least a destination. A first transmitter unit of the mobile apparatus transmits the user input information to the server, whereupon the server is operable to determine an optimum route for the user of the mobile apparatus based on the user input information. The mobile apparatus then receives map data for navigation based on the optimum route found by the server. The mobile apparatus can then store the map data into a storage medium of a storage unit. A notification unit of the mobile apparatus notifies the user of a storage time point of the stored map data.

The user can either reuse the stored map data or request new map data of an optimum route if, for example, road conditions have changed due to traffic or inclement weather or the user decides that the stored map data is not recent enough. Each time the user of the mobile apparatus downloads map data from the server, the user must pay the charged amount for the downloaded data. Therefore, if the map data that the user desires is already stored in the storage unit, the user does not have to download new map data and thereby avoids having to pay a new charged amount. However, since road conditions frequently change due to traffic or weather, the stored map data may no longer indicate the optimum route, or the stored data may be out of date due to changed route conditions. Accordingly, since the notification unit notifies the user of a storage time point of the stored map data when the route guidance unit of the mobile apparatus determines that route guidance can be performed, it is solely the user's decision whether to update the map data that is stored in the storage unit. That is, new map data is not automatically downloaded to the mobile apparatus as in the conventional interactive navigation systems.

Typically, a user desires to view the most recent version of the map data, but the user will also want to minimize the amount of charge for the map data download. Therefore, based on the storage time point of the stored map data that is presented to the user by the notification unit, the user can determine whether to download map data from the server and thereby determine when to incur new costs for the new data. Thus, the interactive navigation system and method of the present invention allows a user to determine whether he or she wants to download map data of an optimum route from the server based on the storage time point of the stored map data. By allowing the user to decide whether he or she wants to download new map data from the server or reuse map data that is already stored in the storage unit of the mobile apparatus, the user can thereby control the costs that are associated with using the interactive navigation system and method. Further, by allowing the user to selectively download map data of an optimum route as he or she desires, the interactive navigation system and method of the present invention allows the provider of the map data, i.e., the server, to efficiently use the communication bandwidth.

New claim 17 recites an interactive navigation system comprising a mobile apparatus and a server. The mobile apparatus of new claim 17 is recited as comprising a notification unit which

is operable to notify a user of a storage time point of the stored map data, where the notification unit is operable to notify the user of the storage time point of the stored map data when the route guidance unit determines that route guidance can be performed. The mobile apparatus of new claim 17 also comprises a first transmitter which is operable to transmit the user input information to the server when at least one of the route guidance unit determines that the route guidance cannot be performed and the user provides an instruction to update the map data stored in the storage medium of the storage unit in response to the notification unit notifying the user of the storage time point of the map data.

New claims 24 and 26 each recite an interactive navigation method of performing navigation based on information provided by a mobile apparatus including an input unit operable to input user input information including at least a destination, a transmitter unit operable to transmit the user input information to an external apparatus, and a storage medium. The interactive navigation methods of new claims 24 and 26 each comprise notifying a user of a storage time point of the stored map data when the determining of whether the route guidance can be performed determines that the route guidance can be performed. The interactive navigation methods of new claims 24 and 26 also each comprise transmitting the user input information from the transmission unit to the external apparatus when at least one of the determining of whether the route guidance can be performed determines that the route guidance cannot be performed and the user provides an instruction to update the map data stored in the storage medium in response to the notifying of the user notifying the user of the storage time point of the map data.

Fultz discloses a method and apparatus for providing navigation and information services to a user of a mobile unit 2, 202 and 302. The mobile unit of Fultz includes a position determination system which detects the present position of the vehicle in which the mobile unit 2, 202 and 302 is mounted (see Column 3, lines 34-36). The mobile unit also includes a communication system that allows the user of the mobile unit to communicate, via a spoken inquiry, with a base station 1, which provides map data, vehicle route information or general information, or one or more auxiliary service providers 10 such as an emergency medical service,

which allow the user of the mobile unit to request assistance in the event of an emergency (see Column 3, lines 39-45, Column 5, lines 39-63). In particular, the user of the mobile unit issues an inquiry to either the base station 1 for map data, route information or general information, or to the auxiliary service provider 10 for emergency assistance by using communication buttons 11-13 that are provided in the mobile unit. The inquiries originating from the mobile unit and the responses from the base station or the auxiliary service provider are transmitted to the user as desired as voice based instructions or encoded data (see Column 6, lines 27-35). The responses can then be stored in a storing system and are played back to the user of the mobile unit through a speaker or are displayed on a display 18. The communication link, such as a cellular network, between the mobile unit and the base station or auxiliary service station is closed after the required data is transferred (see Column 4, lines 13-17).

Behr et al. discloses a method and system for providing route guidance information from a base unit to a remote unit in response to a request from the remote unit. The base unit, in response to the request from the remote unit, then calculates the route guidance information and transmits the route guidance information to the remote unit. The route guidance information includes navigation instructions from an origin to a destination or geographical or regional information that the user of the remote unit has requested (see Column 2, lines 50-64). The system of Behr et al. allows a user to communicate in real time with the base unit in order to update the map data as requested by the user of the remote unit and to store the received information in a storage unit (see Column 5, lines 7-19).

However, neither Fultz nor Behr et al. disclose, suggest or even contemplate a mobile apparatus comprising a notification unit which is operable to notify a user of a storage time point of the stored map data, where the notification unit is operable to notify the user of the storage time point of the stored map data when the route guidance unit determines that route guidance can be performed, as recited in new claim 17. Similarly, neither Fultz nor Behr et al. disclose, suggest or even contemplate notifying a user of a storage time point of the stored map data when the determining of whether the route guidance can be performed determines that the route guidance can be performed, as recited in new claims 24 and 26.

Further, neither Fultz nor Behr et al. disclose or suggest a first transmitter which is operable to transmit the user input information to the server when at least one of the route guidance unit determines that the route guidance cannot be performed and the user provides an instruction to update the map data stored in the storage medium of the storage unit in response to the notification unit notifying the user of the storage time point of the map data, as recited in new claim 17. Similarly, neither Fultz nor Behr et al. disclose or suggest transmitting the user input information from the transmission unit to the external apparatus when at least one of the determining of whether the route guidance can be performed determines that the route guidance cannot be performed and the user provides an instruction to update the map data stored in the storage medium in response to the notifying of the user notifying the user of the storage time point of the map data, as recited in new claims 24 and 26.

As described above, by notifying the user of the storage time point of the map data, the user is provided with an opportunity to determine whether he or she is willing to download an update of the map data. For instance, after the user is notified of the storage time point of the map data, if the user determines that the map data is not recent enough, the user can avoid having to pay the charged amount for the map data download. Further, this advantageous effect also allows the server to efficiently use a communication bandwidth since users will likely not download map data that is not recent enough.

The systems and methods of both Fultz and Behr et al. retrieve information from the respective base units when requested to do so by the user of the mobile unit (remote unit). The user, however, is not informed of the storage time point of the map data that is stored in the storage units of the respective systems of Fultz and Behr et al. Accordingly, a user must always pay for each download of map data from the base units of Fultz and Behr et al., and the user is not afforded an opportunity to determine whether the stored map data is recent enough to forego having to download more “recent” map data.

Accordingly, neither Fultz nor Behr et al., either individually or in combination, disclose, suggest or even contemplate the notification unit or the first transmitter unit of new claim 17 or

the notifying a user of the storage time point or the transmitting of the user input information elements of new claims 24 and 27.

Therefore, Fultz and Behr et al. each fail to disclose or suggest each and every limitation recited in new claims 17, 24 and 26. Accordingly, new claims 17, 24 and 26 are clearly not anticipated by either Fultz or Behr et al. since Fultz and Behr et al. each fail to disclose or suggest each and every limitation as recited in new claims 17, 24 and 26.

Furthermore, no obvious combination of Fultz and Behr et al. would result in the inventions of new claims 17, 24 and 26 since Fultz and Behr et al., either individually or in combination, fail to disclose or suggest each and every limitation as recited in new claims 17, 24 and 26.

Moreover, the clear distinctions discussed above between the present invention, as recited in new claims 17, 24 and 26, and the teachings of Fultz and Behr et al. are such that a person having ordinary skill in the art at the time the invention was made would not have been motivated to modify Fultz and Behr et al. in such a manner as to result in, or otherwise render obvious, the present invention as recited in new claims 17, 24 and 26. Therefore, it is submitted that new claims 17, 24 and 26, as well as new claims 18-23, 25 and 27 which depend therefrom, are clearly allowable over the prior art as applied by the Examiner.

In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is clearly in condition for allowance. An early notice thereof is respectfully solicited.

If, after reviewing this Amendment, the Examiner feels there are any issues remaining which must be resolved before the application can be passed to issue, it is respectfully requested that the Examiner contact the undersigned by telephone in order to resolve such issues.

A fee and a Petition for a one-month Extension of Time are filed herewith pursuant to 37 CFR § 1.136(a).

Respectfully submitted,

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